



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/872,401	06/01/2001	Tuan Nguyen	2001 P 09906 US	2647

7590 10/21/2004

Siemens Corporation  
Intellectual Property Department  
186 Wood Avenue South  
Iselin, NJ 08830

EXAMINER

BRODA, SAMUEL

ART UNIT	PAPER NUMBER
----------	--------------

2123

DATE MAILED: 10/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/872,401	<b>Applicant(s)</b> NGUYEN ET AL.	
	<b>Examiner</b> Samuel Broda	<b>Art Unit</b> 2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 June 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 and 9-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 2123

### **DETAILED ACTION**

1. This communication is in response to Applicants' Amendment mailed on 22 June 2004. Claims 1, 10, 18, and 22-24 were amended; claims 8 and 25 were canceled. Claims 1-7 and 9-24 are pending.

### ***Priority***

2. Based upon Applicants' argument at page 8 paragraphs 2-3, priority to U.S. Provisional Application No. 60/208,664 filed 1 June 2000 and U.S. Provisional Application No. 60/280,679 filed 30 March 2001 is granted.

### ***Claim Rejections - 35 U.S.C. § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

...

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

- 3.1 Claims 1-7, 9, and 18-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Worhach et al, "Integration of Environmental Factors in Process Modeling for Printed Circuit

Art Unit: 2123

Board Manufacturing, Part I: Assembly,” Proceedings of the 1997 IEEE International Symposium on Electronics and the Environment, pp. 218-225 (May 1997).

**3.2** Regarding claim 1, Worhach et al teaches a method for providing consulting services to a customer in connection with the customer’s electronics assembly system, comprising the steps of:

a. identifying a set of solutions opportunities for the customer’s electronics assembly system [solutions opportunities corresponding to minimization of waste streams, energy consumption, process time and to maximization of yield; see Abstract and “II. Model Development” at pages 219-221];

b. modeling the customer’s electronics assembly system in real time with the customer present [customer present to model system using internet-based implementation; see “III. Model Implementation” at pages 221-222 and Fig. 2];

c. defining one or more performance metrics for a proposed solution [performance metrics shown in Table VIII at page 224 and Table IX at page 225 regarding aqueous and no-clean process alternatives];

d. prioritizing the identified solutions by running the model for each of the identified solutions [prioritizing aqueous and no-clean process alternatives by energy and waste generation; see “IV. Case Study” at pages 222-224] ;

e. selecting a proposed solution from among the prioritized, identified solutions [‘no-clean’ selected based on lower waste and energy generation; see Table VIII and Figs. 3-7];

Art Unit: 2123

f. quantifying the benefit of the proposed solution relative to the one or more performance metrics [‘no-clean’ selected based on lower waste and energy generation; see Table VIII and Figs. 3-7]; and

g. communicating the quantified benefit to the customer, wherein the quantified benefit comprises a cost of ownership measure [benefit displayed by web page].

Therefore, Worhach et al anticipates claim 1.

3.3 Regarding claims 2-3 and 5, the method of Worhach et al represents the electronics assembly system at a material flow level of abstraction (see Fig. 1), uses simulation models (see “II. Model Development” at pages 219-221), and the proposed solutions relate to the machines in the assembly system.

3.4 Regarding claim 4, the Internet-based implementation of Worhach et al inherently proposes solutions in under one-half hour.

3.5 Regarding claims 6-7, the method of Worhach et al proposes solutions including information: (1) related to the software tools used in the assembly process, and (2) related to operating parameters of machines in the system, and calculates a cost of ownership measure corresponding to energy and waste consumption. See “IV. Case Study” at pages 222-224.

3.6 Regarding claim 9, the additional method steps correspond to interactive use of the Internet-based implementation of Worhach et al.

Art Unit: 2123

3.7 Regarding independent claim 18 and dependent claims 19-24, these claims are anticipated by Worhach et al using the analysis of claims 1-7 and 9, with the customer session taking place during the customer's use of the Internet-based implementation of the process models as described in "III. Model Implementation" at pages 221-222.

***Claim Rejections - 35 U.S.C. § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4.1 Claims 10-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Worhach et al, in view of Puri, U. S. Patent 6,064,982 issued 16 May 2000 and filed 12 November 1997.

4.2 Regarding claims 10-17, as shown above Worhach et al teaches the limitations appearing in claims 10-17 directed to the identification of customer requirements and constraints, configuration selection, determination of a performance measure, and comparison of the performance measure to the constraints. Nevertheless, Worhach et al does not appear to explicitly teach the following limitation of independent claim 10:

Art Unit: 2123

f. if the at least one performance measure satisfies the customer constraints, offering to sell at least a subset of the electronics assembly equipment of the configuration to the customer,  
wherein the offer is developed, with the benefit of the model, during the sales session.

However, Puri teaches the use of a “smart configurator” that:

... recommends a system configuration that most nearly meets a customer's needs, based upon the results of an interactive customer product selection session in which the customer progresses through a dialog that is implemented in a series of cascading style sheets.  
(Abstract.)

The system and method of Puri generates an offer to sell a particular software configuration during the sales session. See Figs. 8-9 and corresponding text at column 5 line 60 through column 6 line 13. According to Puri at column 1 lines 37-41, such a system and method provides:

an intelligent sales tool that provides field personnel/customers with access to current product information while guiding them through the needs assessment and product selection/configuration process.

**4.3** Regarding claims 10-17, it would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to modify the interactive modeling and performance features of the electronics assembly system of Worhach et al to perform the sales function and

Art Unit: 2123

offer generation features of Puri, because the resulting system would comprise an ‘intelligent sales tool’ that would permit field personnel to configure electronics assembly systems for customers.

### *Applicants’ Arguments*

5.1 Applicants argue at page 9 paragraphs 2-3 of the Amendment that the Worhach et al reference does “not teach or suggest quantifying any benefit relating to cost of ownership” (emphasis in original) as appears in amended independent claims 1 and 18, making the anticipation rejection inapplicable.

5.2 Applicants argue at page 9 paragraph 4 through page 10 paragraph 4 of the Amendment that “one would not look to Puri to modify Worhach et al since there is no suggestion to offer anything for sale in Worhach et al”, making the obviousness rejection inapplicable.

### *Examiner’s Reply*

6.1 In response to Applicants’ argument regarding anticipation, the Examiner respectfully disagrees for the following reason:

Applicants argue that Worhach et al fails to teach quantifying any benefit relating to cost of ownership. The broadest reasonable interpretation of a “cost of ownership measure” includes the costs generated during use, such as energy usage and wastes generated. These ownership



Art Unit: 2123

costs are thoroughly quantified by Worhach et al. The phrase “cost of ownership measure” could have been given a more particular meaning by the Applicants if explicitly done so in the Specification. While Applicants’ Fig. 15 illustrates a number of costs calculated both per year and per board under the heading “Cost of Ownership” this illustration does not clearly limit the meaning of “cost of ownership”; significantly, the types of costs shown in Fig. 15 mirror those costs discussed in Worhach et al. The “Cost of Ownership” of Fig. 15 appears to include costs generated during use, such as energy cost.

**6.2** In response to Applicants’ argument regarding the obvious rejection, the Examiner respectfully disagrees for the following reason:

Worhach et al teaches a method for generating performance measures related to electronics assembly equipment, but Worhach et al does not appear to tie this method to a sales call. Puri supplies the motivation to modify Worhach et al for use during a sales call, because as previously explained, Puri teaches the desirability of an “intelligent sales tool” that guides a user through the sales and configuration process.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to Applicants’ disclosure.
8. **THIS ACTION IS MADE FINAL.** Applicants are reminded of the extension of time policy as set forth in 37 C.F.R. 1.136(a).

Art Unit: 2123

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

9. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Samuel Broda, whose current telephone number is (703) 305-1026. This telephone number will be changed to (571) 272-3709 effective 22 October 2004. The Examiner can normally be reached on Mondays through Fridays from 8:00 AM – 4:30 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Kevin Teska, currently can be reached at (703) 305-9704. This telephone number will be changed to (571) 272-3716 effective 22 October 2004. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist, whose telephone number is (703) 305-3900.



**SAMUEL BRODA, ESQ.**  
**PRIMARY EXAMINER**